WAR FOOD ADMINISTRATION
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METHOD OF COMPUTING WEIGHT OF ROUGH RICE AFTER DRYING
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The wider use of combines and artificial driers in the harvesting of rough
rice has caused operators of driers to become interested in a method for
computing the weight of rough rice after drying when the weight of the rice
before drying, the moisture content of the rice before drying, and the moisture
content of the rice after drying are known.

In October, 1916, Bulletin No. 374 of the United States Department of Agri-
culture was issued. The author is Mr. E. G. Boerner. The title of the
bulletin is "The Intrinsic Values of Grain, Cottonseed, Flour, and Similar
Products, Based on the Dry-Matter Content." In this bulletin a formula is
shown which can be used to compute the moisture content after drying, the
moisture content before drying, the weight of the rice before drying, or
the weight of the rice after drying, if three of these factors are known.

The formula is as follows:

        Percentage of)   (Percentage of)
           dry matter) : (dry matter   ) :: (Original) : (Final
        after drying)   (before drying)   (weight)   (Weight

The percentage of dry matter is always the difference between 100 and the
moisture content. For instance, if rice contains 22% of moisture, the dry
matter content is 78%. In applying the formula the moisture content must
be ascertained and deducted from 100 to learn the dry matter content.

The following is an example of the application of the above formula:
When a lot of rough rice of 1,000 barrels containing 22% moisture before
drying, is dried to a moisture content of 14%, the question is the weight
of the rice after drying. The percentage of dry matter before drying
in this case is 78, and this multiplied by the original weight is 78,000.
The percentage of dry matter after drying is 86, and when 78,000 is divided
by 86, the answer is 906.97, which is the number of barrels of rough rice
after drying. This does not take into consideration any reduction in weight
caused by cleaning or by loss of rice in handling. Almost invariably there
is also some loss in weight because of the dust and other light material
that is blown out in the drying and handling operations.

If the final weight and moisture content before drying and after drying are
known, and the desire is to know the weight before drying, the formula is
reversed by multiplying the final weight by the percentage of dry matter
after drying, and dividing by the percentage of dry matter before drying.